To: The Federal Communication Commission July 12, 2003
In the matter of RM-10740

Regarding the petition for rule making RM-10740, I believe that there is no need to limit the bandwidth of J3E or A3E emissions. I believe that the Commission's guidelines as set forth in 97.307 of the rules sufficiently addresses the use of bandwidth in the Amateur Radio Service. There is no need for further definition of bandwidth, channelization or type acceptance, within the Amateur Radio.

Let me begin by discussing the term "naturalness" as the petitioners try to point out within their petition. The statement that numerous serious scientific studies have established that "naturalness" is achievable in a bandwidth of 300 Hz to 3000 Hz is completely subjective and not accurate. It is well known that a modulation source, like the human voice, determines what the frequency components are for a modulated transmitter plus some distortion component. "Naturalness" is objectively defined as the accurate reproduction of the modulating source information. This means that if the distortion components of the modulation process are kept low according to correct engineering practices, then the modulating bandwidth of a J3E signal will not produce new spectral products in the transmitted signal that do not exist in the modulation information. For a J3E signal this means that the transmitted bandwidth would equal the modulation information bandwidth and for an A3E signal the transmitted bandwidth will equal twice the modulation information bandwidth. The human voice and it's sibilance components produce a spectral response in excess of 2.8 KHz. Therefore a signal of this type cannot be reproduced in a transmitted bandwidth of 2.8 KHz for J3E and 5.6 KHz for A3E, naturally and without significant distortion to the modulation information.

The human voice limited to 2.8 KHz audio bandwidth sounds noticeably muffled when listened to in an uncolored or flat frequency response. The whole purpose of Hi-fidelity transmission in the amateur radio service is to foster design of transmission systems capable of reproducing the modulation information accurately. It is not the purpose of any Hi-Fidelity operations to produce a transmitted signal that is spectrally wider than the modulation information being transmitted on J3E (and respectively for A3E) within reasonable engineering bounds. It is important not to confuse an improperly operated amateur radio station where excessive intermodulation components exist, with operations where designs are utilized to minimize distortion products to produce the most spectrally transparent signal attainable. I don't think it serves anybody's purpose to operate a transmitter improperly to deliberately cause excessive bandwidth, which is already illegal and does not require any further rule making. I also don't think it serves the purpose of experimentation within amateur radio to limit bandwidth operation of Hi-fidelity transmissions in anyway for either J3E or A3E emissions. This would scuttle a great amount of experimentation with new engineering design techniques utilizing Digital Signal Processing and other methods of obtaining stable and spectrally pure SSB and DSB signals.

One of the great things about Amateur Radio is the ability to experiment with different modes of operation within the hobby. The freedom that has been fostered by the FCC and other organizations to allow Amateur Radio Operators the latitude to build and test their own transmitters is a tremendous privilege. This is a time when computers are playing a

large role in experimentation in Amateur Radio and the operating modes of SSB and AM, are no exception. It is now possible through the use of Digital Signal Processing to produce a SSB signal that is spectrally pure without the use of filters as in traditional single sideband transmitters.

The phrase "enhanced SSB", has been used by several regarding the subject of Hi-Fidelity SSB. The opening of the frequency response of an SSB transmitter by use of Digital Signal Processing or other techniques to produce a natural reproduction of the modulation information from the microphone should not be considered "enhanced". If anything traditional filter sideband transmitters distort the modulation information being reproduced by these transmitters resulting in a degraded signal on the air. If anything we should label traditional SSB transmissions "degraded SSB". In a properly adjusted SSB transmitter the full fidelity of the human voice being reproduced by an amateur transmitter is considered natural and should not be limited by regulation. This choice whether to operate with a natural or degraded SSB signal should be left to the discretion of the operator.

It is indeed a shame that the petitioners appear not to realize that there is much more to amateur radio than the limit of one form of SSB operation. The greatness of amateur radio is the diverse operating modes and experimentation allowed within the hobby. For instance the opportunities presented to learn about radio and associated electronics is vast within this hobby. Amateur Radio has provided the basis for training some of the greatest engineers this country has working within that community today. Do we want to limit experimentation within the hobby by enforcing type acceptance of home brew transmitters? I should hope not. This would only serve to limit our varied hobby and perhaps not produce some future engineer or invention as a result. Is it fair to impose channelization on some operators to satisfy some operators of one mode within amateur radio? There are many modes of operation within this hobby and thoughtful operation of each of these goes a long way to avoiding conflicts within the amateur community. This issue does not warrant FCC intervention.

Change in amateur radio has always produced some trepidation among operators. When SSB was invented and subsequently introduced to the hobby many amateurs were frightened by the change. Change is good! The hobby does not develop and progress without change. The strength of Amateur Radio is in its diversity. I respectfully urge the FCC to deny any change in the amateur radio rules as a result of RM-10740. Amateur Radio is self-regulating and in that, the community can evolve within the existing part 97 rules.

Thank you for your attention,

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